REMARKS

The Office Action dated April 21, 2005 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1, 12, 23, 31 and 32 have been amended. No new matter has been added, and no new issues are raised which require further consideration and/or search. Claims 1-32 are submitted for consideration

Claim 32 was rejected under 35 U.S.C 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claim 32 has been amended. Therefore, Application requests that this rejection be withdrawn.

Claims 1-32 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,272,148 to Takagi et al. in view of Degermark IP Header Compression. The Office Action stated that Takagi et al. teaches all of the elements of the claimed invention except for "inserting or modifying at the first node, a routing header in the first full header packet of the stream of packet including CID information," as recited in claims 1 and 12. However, the Office Action cited Degermark as curing these deficiencies and stated that it would have been obvious to combine the teachings of Takagi et al. and Degermark to yield the claimed invention. The rejection is traversed as being based on a

reference that neither teaches nor suggests the novel combination of features clearly recited in independent claims 1, 12, 23, and 31.

Claim 1, upon which claims 2-11 depend, recites a method of initiating compression of an Internet Protocol (IP) header of packets of a stream of packets to be sent from a source apparatus to a destination apparatus in a packet switched network. The source apparatus being connected to the packet switched network by a first node and the destination apparatus being connected to the packet switched network by a second node. The method including the step of modifying, at the first node, the IP header of a first full header packet of the stream of packets from the source apparatus so that a destination address field of the IP header of the first full header packet contains a second node address indicating a location of the second node. The second node address is different than a destination address indicating a location of the destination apparatus. The method also includes the step of inserting, at the first node, a routing header in the first full header packet of the stream of packets. The routing header has context identification (CID) information identifying information of the IP header and the destination address indicating the location of the destination apparatus. The method further includes the steps of transmitting, from the first node to the second node, the first full header packet including the modified IP header and the inserted routing header and initiating at the first node header compression of IP headers of packets of the stream of packets subsequent to the first full header packet, when the second node receives the first full header packet

including the modified IP header and the inserted routing header. IP layer functionality is relied upon to establish a context in which compression is performed.

Claim 12, upon which claims 13-22 depend, recites a method of initiating compression of an Internet Protocol (IP) header of packets of a stream of packets to be sent from a source apparatus to a destination apparatus in a packet switched network. The source apparatus being connected to the packet switched network by a first node and the destination apparatus being connected to the packet switched network by a second node. The method including the step of modifying, at the first node, the IP header of a first full header packet of the stream of packets from the source apparatus so that a destination address field of the IP header of the first full header packet contains a second node address indicating a location of the second node. The second node address is different than a destination address indicating a location of the destination apparatus. The method also includes the step of modifying, at the first node, a routing header in the first full header packet of the stream of packets to include context identification (CID) information identifying information of the IP header and the destination address indicating the location of the destination apparatus and transmitting, from the first node to the second node, the first full header packet including the modified IP header and the modified routing header. The method further includes the step of initiating at the first node header compression of IP headers of packets of the stream of packets subsequent to the full header packet, when the second node receives the full header packet including the

modified IP header and the modified routing header. IP layer functionality is relied upon to establish a context in which compression is performed.

Claim 23, upon which claims 24-30 depend, recites a router for use in a packet switched network for initiating compression of an Internet Protocol (IP) header of packets of a stream of packets from a source apparatus to be sent from the source apparatus to a destination apparatus in the packet switched network. The router includes first apparatus which modifies the IP header of a first full header packet of the stream of packets so that a destination address field of the IP header contains an address indicating a location of another router, the address being different than a destination address indicating a location of the destination apparatus. The router also includes a second apparatus which inserts a routing header in the first full header packet of the stream of packets, the routing header having Context Identification (CID) information identifying information of the IP header in the destination address indicating the location of the destination apparatus. The router further includes a third apparatus which transmits to the another router the full header packet including the modified IP header and the inserted routing header, header compression of the IP header of each packet of the stream of packets subsequent to the first full header packet being initiated upon receipt in the another router of the first full header packet including the modified IP header and the inserted routing header. IP layer functionality is relied upon to establish a context in which compression is performed.

Claim 31, upon which claim 32 depends, recites a system for initiating compression of an Internet Protocol (IP) header of packets of a stream of packets. The

system includes a packet switched network including a source apparatus and a destination apparatus, the source apparatus being connection to the packet switched network by a first node and the destination apparatus being connection to the packet switched network by a second node. The system also includes means for modifying at the first node, the IP header of a first full header packet of the stream of packets from the source apparatus so that a destination address field of the IP header of the first dull header packet contains a second node address indicating a location of the second node, the second node address being different than a destination address indicating a location of the destination apparatus. The system further includes means for inserting at the first nodes, a routing header in the first full header packet of the stream of packets, the routing header having context identification (CID) information identifying information of the IP header and the destination address indicating the location of the destination apparatus. The system also includes means for transmitting from the first node to the second node the full header packet including the modified IP header and the inserted routing header and means for initiating at the first node header compression of IP headers of packets of the stream of packets subsequent to the first full header packet when the second node receives the first fill header packet including the modified IP header and the inserted routing header. IP layer functionality is relied upon to establish a context in which compression is performed.

As will be discussed below, the cited references of Takagi et al. and Degermark fail to disclose or suggest the elements of claims 1, 12, 23 and 31.

Takagi et al. teaches a communication network which includes wire terminals, gateway devices which are connected to a wire network and to base stations through a router, and radio terminals. The router carries out routing by referring to the header information in the IP datagram. Col. 11, lines 44-67. Figure 4 shows a manner by which the IP datagrams are divided into a plurality of datalink frames. An IP datagram reassembling unit carries out process for reassembling the original IP datagram. The IP datagram reassembling is carried out where the plurality of datalink frames that constitute a datagram are transmitted without change the order among them, and an identifier of the IP datagram is described in the header of each datalink frame. Col. 12, lines 38-50. The IP datagram reassembling unit has a function for converting a TCP/IP header in a compressed format into a TCP/IP header in a normal format. Col. 13, lines 15-17.

Takagi et al. also teaches another communication network which uses a router to distribute loads of transport layer relaying or the application layer relaying over a plurality of gateway devices. The router interconnects a wire network with wire terminals. The transmission of IP datagram from the wire terminal to the radio terminal, and vice versa, may be classified where in one case a tunneling technique is used. In the tunneling technique, the header of an IP datagram to be transmitted has an IP address of the router or gateway device as a destination and an IP datagram is further encapsulated in it's IP payload. Col. 24, line 20- Vol. 26, line 8.

Degermark is a Network Working Group RFC that defines a Context Identifier (CID). According to page 7 of Degermark, a context identifier is a small unique number identifying the context that should be used to decompress a compress header.

Applicant respectfully submits that Takagi et al fails to teach or suggest each element of independent claims 1, 12, 23 and 31. Each of claims 1, 12, 23 and 31 recites, in part, that IP layer functionality is relied upon to establish a context in which compression is performed. The Office Action makes reference to column 13, lines 15-16 and column 23, lines 8-17 of Takagi concerning the claim step for initiating compression of the subsequent packets. These portions of Takagi mention header compression in both PPP and SLIP. It is well know to those of ordinary skill in the art that such compression mechanisms rely on link level signaling (i.e., signaling below the IP layer) in order to establish the context in which the compression will take place. (See for example, RFC 1962 which defines how link level signaling is performed in case of PPP.) As such, these portions of the Takagi reference highlight the distinctions between the operations in Takagi and the present claimed invention. Specifically, these portions of Takagi et al. teach that relying upon IP layer functionality to establish a context in which compression is performed as recited in claims 1, 12, 23 and 31 is neither taught nor suggested by Takagi et al. Moreover, by virtue of the specific claimed steps of modifying the IP header of the first full header packet and inserting or modifying a routing header therein, the present invention does not require the existence of the session/context between the compressor and the decompressor which is necessary for link level signaling such as used

in Takagi. Instead, the present claimed mechanism can rely on the IP layer functionality to accomplish the establishment of the context in which the compression is performed. Accordingly, it is respectfully submitted that these portions of Takagi (i.e., column 13, lines 15-16 and column 23, lines 8-17) serve as further evidence of the distinctions (and advantages) of the present claimed invention.

Furthermore, the Office Action states that Takagi et al. teaches initiating, at the first node header, compression of IP headers of packets subsequent to the first full header packet, when the second node receives the first full header packet including the modified IP header and the inserted routing header as recited in independent claims 1, 12, 23 and 31. Upon close review of Takagi et al., there does not seem to be any teaching or suggestion of initiating compression of IP headers of packets subsequent to the first full header packet, when the second node receives the first full header packet including the modified IP header and the inserted routing header as recited in claims 1, 12, 23 and 31. Col. 13, lines 15-26 of Takagi et al., which is cited by the Office Action, merely teaches that the reassembling unit has a function for converting TCP/IP header in a compressed format to a normal format. Col. 23, lines 8-17, another section cited by the Office Action, simply teaches that the radio IF output unit includes a segmentation unit for segmenting IP datagram into a plurality of datalink frames and a priority unit for transmitting frames with a higher priority before frames with a lower priority. According to Takagi et al., the segmentation unit has a header compression function which operates with the reassembling unit. However, there is no teaching or suggestion of initiating, at

the first node, header compression of IP headers of packets subsequent to the first full header packet, when the second node receives the first full header packet including the modified IP header and the inserted routing header as recited in claims 1, 12, 23 and 31. Claims 2-11, 13-22, 24-30 and 32 depend on claims 1, 12, 23 and 31 respectively and incorporate all of the elements of those claims.

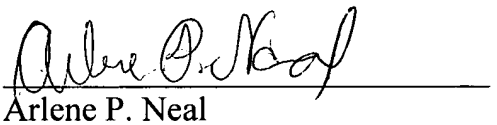
Moreover, Degermark does not cure the deficiencies of Takagi et al. as described above. Specifically, Degermark does not describe a mechanism of using a routing header to convey context. Instead, the Degermark reference relies on the very packet inspection which the present invention was designed to avoid. Shortcomings of systems such as taught by Degermark are discussed, for example, in the background of the invention on pages 5 and 6 of the application. As such, it is respectfully submitted, that, rather than motivating the modification of Takagi to arrive at the present claimed invention, Degermark teaches directly away from such a modification. Thus, Applicant respectfully asserts that the rejection under 35 U.S.C. §103(a) should be withdrawn because neither Takagi et al. nor Degermark , whether taken singly or combined, teaches or suggests each feature of claims 1, 12, 23 and 31 and hence, dependent claims 2-11, 13-22, 24-30 and 31 thereon.

As noted previously, claims 1-32 recite subject matter which is neither disclosed nor suggested in the prior art references cited in the Office Action. It is therefore respectfully requested that all of claims 1-32 be allowed and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

EKLUND

Art Unit: 2157

Application No.: 09/429,626

Examiner: Gregory G. Todd

Filed: October 29, 1999

Attorney Dkt. No.: 59864 00525

For: METHOD AND APPARATUS FOR INITIATING COMPRESSION OF HEADERS OF PACKETS AND REFRESHING THE CONTEXT RELATED TO THE PACKETS

REVOCATION AND NEW POWER OF ATTORNEY

Commissioner for Patents
P.O. Box 1450
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Sir:

The undersigned, Nokia Corporation, is the assignee of the entire right, title and interest of the above-identified application by virtue of an assignment from the inventors. The Assignment is filed herewith. The undersigned hereby revokes any and all powers of attorney heretofore granted and hereby appoints the firm of:

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as attorneys to prosecute the application and to transact all business in the Patent and Trademark Office connected therewith. It is respectfully requested that the records of the United States Patent & Trademark Office be updated to reflect this information, and that all correspondence be sent to the address indicated above.

Nokia Corporation

Date: June 22, 2005

By: _____
(Signature)

Tuuli Ahava
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IPR Manager
(Title)

SQUIRE, SANDERS & DEMPSEY L.L.P.

Docket No. 59864.00525

U.S. ASSIGNMENT

For good and valuable consideration paid to the undersigned inventor(s) (hereinafter ASSIGNOR) by

[Insert ASSIGNEE's Name(s) Address(es)]

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(hereinafter ASSIGNEE), the receipt and sufficiency of which is hereby acknowledged, the undersigned ASSIGNOR hereby sells, assigns and transfers to ASSIGNEE the entire and exclusive right, title and interest to the invention entitled

[Title of Invention]

METHOD AND APPARATUS FOR INTIATING COMPRESSION OF HEADERS OF PACKETS AND REFRESHING THE CONTEXT RELATED TO THE PACKETS

for which application for Letters Patent of the United States was executed on even date herewith unless otherwise indicated below:

[*If the assigament is being filed after the filing of the application, this section must be completed]

*filed on October 29, 1999, Serial No. 09/429,626

(Squire, Sanders & Dempsey L.L.P. is hereby authorized to insert the series code, serial number and/or filing date hereon, when known)

and all Letters Patent of the United States to be obtained therefor on said application or any continuation, division, renewal, substitute, reissue or reexamination thereof for the full term or terms for which the same may be granted.

The ASSIGNOR agrees to execute all papers necessary in connection with application and any continuing, divisional, reissue or reexamination applications thereof and also to execute separate assignments in connection with such applications as the ASSIGNEE may deem necessary or expedient.

The ASSIGNOR agrees to execute all papers necessary in connection with any interference, litigation, or other legal proceeding which may be declared concerning this application or any continuation, division, reissue or reexamination thereof or Letters Patent or reissue patent issued thereon and to cooperate with the ASSIGNEE in every way possible in obtaining and producing evidence and proceeding with such interference, litigation, or other legal proceeding.

IN WITNESS WHEREOF, the undersigned inventor(s) has (have) affixed his/her/their signature(s).

[Signature(s) of Assignor(s)]

(SIGNATURE)	Carl EKLUND (TYPE NAME)	23.6.2005 (DATE)
(SIGNATURE)	(TYPE NAME)	(DATE)
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(SIGNATURE)	(TYPE NAME)	(DATE)

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